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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,747	02/07/2002	Michael David Rabbett	501377	2974

7590 06/17/2004

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EXAMINER

FAYYAZ, NASHMIYA SAQIB

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding..

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/072,747	RABBETT ET AL. <span style="float: right;">OK</span>	
	<b>Examiner</b>	<b>Art Unit</b>	
	Nashmiya S. Fayyaz	2856	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.  
     4a) Of the above claim(s) 34-55 is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-3, 5-14, 17, 18 and 21-24 is/are rejected.  
 7) ☒ Claim(s) 4, 15, 16, 19, 20 and 25-33 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/12/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Applicant's election without traverse of Group I in the reply filed on 4/2/04 is acknowledged.
2. Claims 34-55 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/2/04.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 3, 5, 9, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2254696 (Robins) in view of Warburton U.S. Patent # 6,098,523. As to claims 1, 2, 3, 5, 9 and 12-14, Robins discloses a gas sensor and calibration device including a housing (unnumbered) with aperture 10, carbon monoxide sensor 12 with aperture not shown, gas generator 20 with an aperture not shown and a controller (not shown) coupled to both the sensor and generator, see Figs. 1 and 2 and pp. 2 et seq. Further, it appears that Robins teaches usage of a hydrogen gas generator as opposed to carbon monoxide itself so as not to risk producing false alarms based on the calibration gas produced, see p. 6. However, in a closely related prior art device, Warburton discloses a testing apparatus for gas sensors in which a carbon monoxide gas generator 58a-58n is enclosed in the housing 10 of the gas sensor 8, see column

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4, lines 20 et seq. and fig. 1. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have employed a CO gas generator to test the CO sensor in Robins in view of Warburton's teaching that it has been found to be "preferable to test the sensor by direct exposure to the gas of interest" (col. 1, lines 43-54) rather than exposure to hydrogen gas as is taught by Robins. As to claim 2, Robins teaches control of the concentration of the calibrant gas by controlling the amplitude and duration of the current passed to the metal electrodes, see p.4, lines 9 et seq and note Fig. 2 which is in volts. As to claim 3, failure would have been obvious above a predetermined level since one of ordinary skill in the art would not desire to produce unacceptable levels of a toxic gas, unnecessarily. As to claim 5, opening 10 is indicated as a "gas permeable" opening indicating that it is diffusion limiting implying that the other two apertures are not diffusion limiting. As to claim 9, reversal of the diffusion limiting apertures is considered to have been an obvious design choice equivalent in function of controlling the flow. As to claims 13-14, monitoring of the output is inherent as the purpose is to monitor carbon monoxide and it would have been obvious to one of ordinary skill in the art at the time of the invention to have inhibited further CO production if the toxic gas is already detected.

5. Claims 6-8, 10-11, 17-18 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robins in view of Warburton as applied to claims 1, 2, 3, 5, 9 and 12-14 above, and further in view of Shen et al. -U.S. Patent # 6,200,443. As to claims 6-8 and 10-11, Robins lacks a teaching for a water reservoir for the electrochemical sensor. However, in a related prior art device, Shen et al disclose a

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gas sensor with a self-diagnostic device in which both the sensor and generator are in the form of an electrochemical cell, see Figs. 8 and 9 and further teaches the usage of a water reservoir 21, see col. 8, lines 46 et seq. Inclusion of a water reservoir in the electrochemical cells of the CO sensor/generator would have been obvious to one of ordinary skill in the art at the time of the invention in order to maintain "constant hydration for many years". As to claims 17-18, Robins and Warburton fail to teach temperature compensation and sensing. In the Shen et al. device, there is included a heating element 32 and thermistor 101. Inclusion of such temperature compensation means would have been obvious to one of ordinary skill in the art at the time of the invention in order to avoid temperatures below freezing which adversely affect the sensor performance, see col. 10, lines 47 et seq. as taught by Shen et al. As to claims 21-24, it appears that by the microprocessor heating the heating element in the event that the temperature falls below a predetermined temperature, that the microprocessor in effect controls the output of the CO sensor and ensures that the temperature is within a predetermined range.

***Allowable Subject Matter***

6. Claims 4, 15-16, 19-20, and 25-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Mondays and Thursdays.

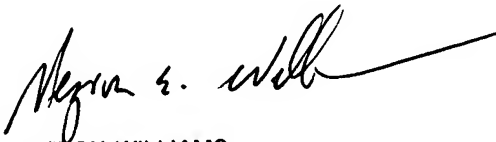
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
NFayyaz  
Examiner  
Art Unit 2856

nf  
6/7/04

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800